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REMARKSClaim Rejections

Claims 12 stands rejected under 35 USC 112 as being indefinite. Claim 12 has been amended to overcome this objection, and no longer refers to "a non-conducting surface" without antecedent basis.

Claims 13 stands rejected under 35 USC 112 as being indefinite, as claim 13 recites "the conducting surface" without sufficient antecedent basis. Claim 13 has been amended to refer to an electrically conducting sheet, so as to overcome this rejection.

Claims 1-30 stand rejected under 35 USC 102(c) as being anticipated by Jackson (US 6,885,345). Claims 1, 9, 12, 13, and 18 have been amended.

Jackson discloses an actively reconfigurable pixelized antenna, in which antenna pixels can be interconnected by switches (e.g. Figure 1). The reconfigurable antenna of Jackson is not an artificial magnetic conductor.

Artificial magnetic conductors provide the properties of a magnetic conductor at one or more frequencies, and typically comprise a dielectric layer having a frequency selective surface on one surface of the dielectric layer, and a conducting sheet on the other surface (Application, p. 1, lines 20-24, p. 2 lines 11-12). As shown in the example of Figure 1, the conducting sheet is generally opposed to the frequency selective surface.

Regarding claims 1-7, claim 1 describes a reconfigurable frequency selective surface (FSS), the reconfigurable FSS being part of an artificial magnetic conductor (AMC) ground plane of an antenna. Jackson does not disclose an antenna having a reconfigurable AMC as a ground plane. Jackson discloses an antenna in which antenna pixels are reconfigurable, but does not discuss the use of ground planes with such an antenna. A person skilled in the art would know to use a conventional ground plane with the antenna of Jackson, but there is no teaching in Jackson of the use of a reconfigurable artificial magnetic conductor (AMC) ground plane according to the present invention.

The limitation "the reconfigurable FSS being part of an artificial magnetic conductor (AMC) ground plane of an antenna" patently distinguishes claim 1, and hence also the dependent claims 2-7, from the cited prior art.

Regarding claims 9-18, claim 9 has been amended to include the limitation that the conducting sheet is a continuous sheet opposing the plurality of conducting patches. Support for this amendment is

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found, for example, in Figure 1, Jackson does not disclose an artificial magnetic conductor. Jackson discusses the use of a grid of electrodes (col. 5, lines 56 – 65, also col. 6, lines 40-45), but not the use of a conducting sheet opposing a plurality conducting patches on the other side of a dielectric layer.

Regarding claims 16 and 17, these claims have been amended to not be a statement of a merely intended use (Office Action, p. 4).

Regarding claim 18, Jackson does not disclose a reconfigurable AMC as a ground plane for an antenna. This claim has been amended to avoid interpretation as a recitation of a merely intended use.

Regarding claims 19 – 25, these claims refer to an artificial magnetic conductor (AMC). As discussed above, for example in relation to claim 1, Jackson does not describe an AMC. Claim 19 has been amended to describe an electrically conducting sheet substantially adjacent to the second surface of the dielectric material, the electrically conducting sheet being a continuous sheet opposing the plurality of conducting patches. This is not disclosed in Jackson. Claim 19 has further been amended to describe the AMC behaving as a magnetic conductor at the resonance frequency. This follows the definition of an AMC (Application, p. 2, lines 11-12), and this property is not disclosed by Jackson.

Regarding claim 25, Jackson does not disclose an interconnection configuration for incident electromagnetic radiation that is reconfigurable through a change in the frequency of the incident electromagnetic radiation.

Regarding claims 26 – 30, claim 26 has been amended in a manner analogous to claim 19. Hence, these claims are allowable for the reasons given above in relation to claim 19.

Claim 31 is new, and is allowable as Jackson does not disclose an antenna having a reconfigurable AMC as a ground plane, as discussed above in relation to claim 1.

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Based upon the foregoing amendments and comments, Applicant believes this case is in condition for allowance. Questions regarding this application may be directed to the undersigned attorney by telephone, facsimile or electronic mail.

Respectfully submitted,

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